

In re WILLIAMS ET AL., Application No. 09/894,199
Amendment C

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method comprising:
receiving a start flow control signal;
receiving a stop flow control signal;
determining a ~~timing difference~~ quantitative time duration between the ~~said~~ receipt of the start flow control signal and said receipt of the stop flow control signal; and
determining an initial rate based at least in part on said quantitative time duration. ~~the determined difference;~~
~~wherein the timing difference is a measured time duration.~~

Claim 2 (currently amended): The method of claim 1, further comprising: comparing ~~the timing difference~~ said quantitative time duration to a predetermined threshold to produce a comparison result; and adjusting the initial rate based at least in part on the comparison result.

Claim 3 (currently amended): The method of claim 2, wherein said adjusting the initial rate includes increasing the initial rate if ~~the timing difference~~ said quantitative time duration was less than the predetermined threshold.

Claim 4 (currently amended): The method of claim 2, wherein said adjusting the initial rate includes decreasing the initial rate if ~~the timing difference~~ said quantitative time duration was greater than the predetermined threshold.

Claim 5 (previously presented): The method of claim 1, further comprising: setting a current rate to the initial rate; and increasing the current rate.

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Claim 6 (previously presented): The method of claim 5, wherein said increasing the current rate includes doubling a value of the current rate.

Claim 7 (previously presented): The method of claim 6, further comprising: comparing the current rate to a maximum rate, and setting the current rate to the maximum rate.

Claim 8 (original): The method of claim 5, further comprising generating a set of tokens based on the value of the current rate.

Claim 9 (canceled)

Claim 10 (original): A method comprising:
receiving a start flow control signal;
receiving a stop flow control signal;
determining a timing difference between the receipt of the start flow control signal and the stop flow control signal; and
exponentially decreasing an initial rate if the time difference is greater than the predetermined threshold.

Claim 11 (original): The method of claim 10, further comprising multiplicatively increasing the initial rate if the difference is less than a predetermined threshold.

Claim 12 (original): The method of claim 11, wherein said multiplicatively increasing the initial rate includes doubling the initial rate.

Claim 13 (original): The method of claim 10, wherein said exponentially decreasing the initial rate includes raising the initial rate to a one-half power.

Claim 14 (original): The method of claim 10, further comprising multiplicatively increasing a current traffic rate.

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Claims 15-17 canceled

Claim 18 (currently amended): An apparatus configured to adaptively control rates, the apparatus adaptive rate control mechanism comprising:

a rate controller; and

a timing mechanism;

wherein the rate controller ~~receives~~ is configured to receive a start flow control signal and a stop flow control signal, ~~determines a timing difference to determine a quantitative time duration~~ between the said receipt of the start flow control signal and said receipt of the stop flow control signal, and determines to determine an initial rate based at least in part on said quantitative time duration.

~~the determined difference;~~

~~wherein the timing difference is a measured time duration.~~

Claim 19 (currently amended): The ~~adaptive rate control mechanism apparatus~~ apparatus of claim 18, wherein the rate controller is configured to compare ~~compares the timing difference said quantitative time duration~~ to a predetermined threshold to produce a comparison result, and ~~adjusts~~ is configured to adjust the initial rate based at least in part on the comparison result.

Claim 20 (currently amended): The ~~adaptive rate control mechanism apparatus~~ apparatus of claim 19, wherein said adjusting of the initial rate includes increasing the initial rate if ~~the timing difference said quantitative time duration~~ was less than the predetermined threshold.

Claim 21 (currently amended): The ~~adaptive rate control mechanism apparatus~~ apparatus of claim 19, wherein said adjusting of the initial rate includes decreasing the initial rate if ~~the timing difference said quantitative time duration~~ was greater than the predetermined threshold.

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Claim 22 (currently amended): The ~~adaptive rate control mechanism~~ apparatus of claim 18, wherein the rate controller ~~sets~~ is configured to set a current rate to the initial rate, and ~~increases to increase~~ the current rate.

Claim 23 (currently amended): The ~~adaptive rate control mechanism~~ apparatus of claim 22, wherein said increasing of the current rate includes doubling a value of the current rate.

Claim 24 (currently amended): The ~~adaptive rate control mechanism~~ apparatus of claim 23, wherein the rate controller ~~compares~~ is configured to compare the current rate to a maximum rate, and ~~sets~~ is configured to set the current rate to the maximum rate.

Claim 25 (currently amended): The ~~adaptive rate control mechanism~~ apparatus of claim 22, wherein the rate controller ~~generates~~ is configured to generate a set of tokens based on the value of the current rate.

Claim 26 (currently amended): An apparatus comprising:
means for receiving a start flow control signal; ~~means for receiving~~ and a stop flow control signal;
means for ~~determining a timing difference~~ determining a quantitative time duration between ~~the receipt of~~ the start flow control signal and the stop flow control signal; and
means for determining an initial rate based at least in part on said quantitative time duration.
~~the determined difference;~~
~~wherein the timing difference is a measured time duration.~~

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Claim 27 (currently amended): The apparatus of claim 26, comprising ~~means for comparing the timing difference to a predetermined threshold to produce a comparison result;~~ and means for adjusting the initial rate based at least in part on the ~~comparison~~ result of comparing said quantitative time duration to a predetermined threshold.

Claim 28 (currently amended): The apparatus of claim 27, wherein said means for adjusting the initial rate includes means for increasing the initial rate if ~~the timing difference~~ said quantitative time duration was less than the predetermined threshold.

Claim 29 (currently amended): The apparatus of claim 27, wherein said means for adjusting the initial rate includes means for decreasing the initial rate if ~~the timing difference~~ said quantitative time duration was greater than the predetermined threshold.

Claim 30 (original): The apparatus of claim 26, comprising means for setting a current rate to the initial rate; and means for increasing the current rate.

Claim 31 (previously presented): The apparatus of claim 30, wherein said means for increasing the current rate includes means for doubling a value of the current rate.

Claim 32 (original): The apparatus of claim 31, comprising means for comparing the current rate to a maximum rate, and means for setting the current rate to the maximum rate.

Claim 33 (original): The apparatus of claim 30, comprising means for generating a set of tokens based on the value of the current rate.

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Claim 34 (currently amended): One or more computer-readable media ~~containing~~
tangibly embodying computer-executable instructions for performing operations, said
operations comprising:

identifying a quantitative time duration between receiving a start flow control signal
and signal; receiving a stop flow control signal; determining a timing difference between the
receipt of the start flow control signal and the stop flow control signal; and

determining an initial rate for sending information based at least in part on said
quantitative time duration.

~~the determined difference;~~

~~wherein the timing difference is a measured time duration.~~

Claim 35 (currently amended): The computer-readable media of claim 34, wherein
said operations further comprise: ~~comparing the timing difference to a predetermined~~
~~threshold to produce a comparison result; and~~ adjusting the initial rate based at least in part on
the ~~comparison result~~ of comparing said quantitative time duration to a predetermined
threshold.

Claim 36 (currently amended): The computer-readable media of claim 35, wherein
said adjusting the initial rate includes increasing the initial rate if ~~the timing difference~~ said
quantitative time duration was less than the predetermined threshold.

Claim 37 (currently amended): The computer-readable media of claim 35, wherein
said adjusting the initial rate includes decreasing the initial rate if ~~the timing difference~~ said
quantitative time duration was greater than the predetermined threshold.

Claim 38 (previously presented): The computer-readable media of claim 34, wherein
said operations further comprise: setting a current rate to the initial rate; and increasing the
current rate.

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Claim 39 (previously presented): The computer-readable media of claim 38, wherein said increasing the current rate includes doubling a value of the current rate.

Claim 40 (previously presented): The computer-readable media of claim 39, wherein said operations further comprise: comparing the current rate to a maximum rate, and setting the current rate to the maximum rate.

Claim 41 (previously presented): The computer-readable media of claim 38, wherein said operations further comprise generating a set of tokens based on the value of the current rate.

Claim 42 (currently amended): One or more computer-readable media ~~containing~~ tangibly embodying computer-executable instructions for performing operations, said operations comprising:

~~receiving a start flow control signal; receiving a stop flow control signal; determining~~
identifying a timing difference between ~~the receipt of the a~~ start flow control signal and ~~the a~~ stop flow control signal; and
exponentially decreasing an initial rate if the time difference is greater than the predetermined threshold.

Claim 43 (previously presented): The computer-readable media of claim 42, wherein said operations further comprise multiplicatively increasing the initial rate if the difference is less than a predetermined threshold.

Claim 44 (previously presented): The computer-readable media of claim 43, wherein said multiplicatively increasing the initial rate includes doubling the initial rate.

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Claim 45 (previously presented): The computer-readable media of claim 42, wherein said exponentially decreasing the initial rate includes raising the initial rate to a one-half power.

Claim 46 (previously presented): The computer-readable media of claim 42, wherein said operations further comprise multiplicatively increasing a current traffic rate.

Claim 47 (new): A method comprising:
determining a timing difference between a start flow control signal and a stop flow control signal;
determining an initial rate based at least in part on the determined timing difference;
and
adjusting the initial rate based at least in part on the result of comparing the timing difference to a predetermined threshold.

Claim 48 (new): The method of claim 47, wherein said adjusting the initial rate includes increasing the initial rate if the timing difference was less than the predetermined threshold.

Claim 49 (new): The method of claim 47, wherein said adjusting the initial rate includes decreasing the initial rate if the timing difference was greater than the predetermined threshold.

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Claim 50 (new): An apparatus comprising:
a rate controller; and
a timing mechanism;
wherein the rate controller is configured to determine a timing difference between the
a start flow control signal and a stop flow control signal to determine an initial rate based at
least in part on the determined timing difference, and to adjust the initial rate based at least in
part on a comparison of the timing difference to a predetermined threshold.

Claim 51 (new): The apparatus of claim 50, wherein said adjusting the initial rate
includes increasing the initial rate if the timing difference was less than the predetermined
threshold.

Claim 52 (new): The apparatus of claim 50, wherein said adjusting the initial rate
includes decreasing the initial rate if the timing difference was greater than the predetermined
threshold.

Claim 53 (new): A method comprising:
determining a timing difference between a start flow control signal and a stop flow
control signal;
determining a rate for sending information based at least in part on the determined
timing difference; and
generating a set of tokens based on a value of the rate for sending information.

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Claim 54 (new): An apparatus comprising:
a rate controller; and
a timing mechanism;
wherein the rate controller is configured to receive a start flow control signal and a stop flow control signal, to determine a timing difference between the start flow control signal and the stop flow control signal, to determine a rate for sending information based at least in part on the determined difference, and to generate a set of tokens based on a value of the rate for sending information.

Claim 55 (new): The method of claim 10, wherein the timing difference is a measured time duration.

Claim 56 (new): The method of claim 10, wherein the timing difference is determined based on said receipt of the start flow control signal followed in time by said receipt of the stop flow control signal.

Claim 57 (new): The computer-readable media of claim 42, wherein the timing difference is a measured time duration.

Claim 58 (new): The method of claim 1, wherein the quantitative time duration corresponds to an amount of time from said receipt of the start flow control signal until said receipt of the stop flow control signal.

Claim 59 (new): The apparatus of claim 18, wherein the quantitative time duration corresponds to an amount of time from said receipt of the start flow control signal until said receipt of the stop flow control signal.

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Claim 60 (new): The apparatus of claim 26, wherein the quantitative time duration corresponds to an amount of time from said receipt of the start flow control signal until said receipt of the stop flow control signal.

Claim 61 (new): The computer-readable media of claim 34, wherein the quantitative time duration corresponds to an amount of time from said receipt of the start flow control signal until said receipt of the stop flow control signal.